

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL.*

NEW-YORK, FEBRUARY 6, 1836.

Publicola is welcome again ; it is a long time since we last heard from him.

For the Railroad Journal.

SOCIAL INFLUENCE OF ROADS AND RAILWAYS.

In rude states of society, there are no good roads intersecting a whole country. In consequence, different sections have no intercourse with each other ; and there has existed in former times a multitude of petty kingdoms, fifty miles square, or a hundred miles square, or larger or smaller, according to natural boundaries. These were jealous of each other. Each viewed its neighbors as strangers and enemies ; and, having no commercial transactions with them, or but to a small extent, it had little temptation to avoid a state of war. Great nations were first formed where communication was easily maintained between remote places. Thus the making of good roads over the surface of the earth, has been one of the most efficient causes in forming great nations ; and the formation of such great nations has destroyed jealousies and prejudices, and has put an end to hostilities between the provinces which now constitute one country, but which before were distinct kingdoms, and had their peculiar languages or dialects.

Railroads will make, in some parts of the world, as great a change in the existing state of society, as good common roads

have helped to make in past centuries. They will make intercourse so easy with places two thousand miles distant, that the people of the two places will have literary, religious, social and commercial connexions with each other, too close and valuable, to allow of being interrupted by wars, without extreme necessity.

But not only may railroads be viewed as important by binding together in friendship distant countries, or remote sections of the same country ; the system may be applied to the accommodation of the people scattered over the whole surface of our soil in the whole business of social life. When it is considered that as easily as a man can wheel on a common road by his own labor a single bushel of corn, he could move on a railroad, with the same rapidity, a load of more than 1200 lbs., it will appear probable that railpaths for short distances, to main railroads, will be formed for the use of men. This will be further apparent from the fact that the same power which a man exerts in going up stairs twenty feet high, would propel him forward on a level railpath nearly a mile ; and if his carriage in which he moved himself weighing 500 lbs., the additional power necessary to move this, would be only that exerted by a man in raising two pounds twenty feet high, or as easily as a man can ascend a stairs twenty feet carrying with him two pounds weight, he could propel himself in a car weighing 500 lbs., very nearly a mile. There would be a vastly greater amount of business done over the country but for distances of three, five, eight and ten miles, at which people are from the places where they might do their business.

Many articles of produce, or of the growth of the land, would be vastly more valuable to the farmer but for these short distances over which bulky articles must be carried.

The advantages of the whole public for attending higher schools, and all literary

and religious meetings, are incalculably diminished by these distances.

According to Sir John F. W. Hershel, a man working eight hours a day, would exert the power of raising 364½ lbs. ten feet high each minute, or 729 lbs. five feet high each minute. But the power required to raise 729 lbs. five feet high in a minute, would carry such weight forward on a level railroad five times 240 or 250 feet, or more than a fifth of a mile. Thus a man exerting on a level railpath the strength he lays out in his ordinary labor, for only five minutes, may propel a weight of 729 lbs. more than a mile.

A man lays out his whole ordinary strength in walking a mile in fifteen minutes, without any load ; but on a level railpath he could, with the same application of power, move a weight of 729 lbs. three miles in the same time. But if we should take all seasons of the year into view, it would be found that in the country a man would as readily do common labor for twenty minutes, as walk one mile ; for he must sometimes wade or wallow in snow or mire, when a walk of one mile would be equivalent to half an hour's labor.

Could the country to any great extent be intersected by such railpaths as are here referred to ? What then are the difficulties ?

1. The cost—a very important consideration. But the cost would be very small, no more strength or solidity being required in the structure than to support at one point, or under one car, about 2000 lbs.

2. Deep cuttings. These would never be needed ; for the railpaths are supposed to have but a few miles to run before they enter into larger railroads ; and these railroads will be along the valleys of rivers, or at their level at least ; the railpaths will easily fall into them ; and if they must be extended several miles to avoid crossing a hill, as they are cheaply made, the increased length is no great evil.

3. Inequalities of ground. As to a

great part of the minor business and intercourse of the agricultural districts the course of trade &c., is controlled very much by the lay of the land. Between two villages five or six miles apart there is a very high hill, or a deep valley and a tract of barren land. This hill, waste, or valley becomes a natural boundary between the people on each side as to social, religious and commercial affairs. Thus the business, social, and ecclesiastical connexions of towns depend very much on their being on a great or easy road, or natural channel of conveyance. If railpaths should be adapted to the inequalities of the ground, so that a level should be preserved, business would flow into these paths just as has been always the case in opening new and better roads; and if the existing course of business should be in some instances greatly disturbed, it would only be a temporary derangement.

4. Want of business. The internal traveling and transportation, social, religious and commercial, in nearly every town in the country, is, I think, from five to ten times all the travelling and transportation it makes out of the territory of the town, even over all the roads and railroads in the nation. There will not then be a want of business for a few judiciously selected railpaths through every well settled township in the Union.

5. Want of funds to build them. They must be free, and therefore be made by public corporations, towns, cities, counties, or States. If these do not choose to make them, private corporations will make them, for the revenue which they will see a fair prospect of deriving from them. When they have thus succeeded in the most promising routes, other routes will be commenced, and the system will extend. Such a system if successful, or if only partially practicable, would greatly augment the business and revenue of the main railroads. They would be to these roads like the rills and the brooks and smaller rivers to a noble flood that still swells as it receives one tributary after another, and pours its full tide into the ocean by some great city. This, though it may be rich and powerful and proud, owes all its commerce to the labors of farmers and mechanics, scattered widely, whose productions collected in small, and then in larger and larger quantities, till they swell to the mass of goods that fill a great centre of trade.

PUBLICOLA.

The foregoing communication is well worth a perusal. The idea thrown out is a novel one, yet deserving of notice. We wish all manner of prosperity to "railpaths."

RAILROAD AND CANAL INTELLIGENCE.

NEW-YORK.

Several meetings have been held in Dutchess county, in relation to a proposed Railroad from New-York to Albany—recommending the direct route, instead of the one proposed through Stockbridge, &c.

NEW JERSEY.

WEST JERSEY.—We have noticed re-

cently gratifying indications of a spirit of improvement in West Jersey. Among other schemes of improvement, Railroads have been projected from Mount Holly, in Burlington county, and from Woodbury, the county town of Gloucester, to Camden, opposite Philadelphia. The latter route has been examined by an Engineer, Mr. H. R. Campbell, of Philadelphia, who estimates the entire cost, including the eight miles and a half of Railroad single track, the locomotive, cars, &c., at \$80,400, and the annual expense, including interest on the capital, \$14,374. Mr. Campbell furnishes the following estimate of the probable receipts:

100 regular passengers, or 50 each way, at 25 cents, \$25 per day, and 313 days in a year,	\$7,825 00
50 pleasure travellers, or 25 each way, who would not travel except by Railroad, at 25 cents each,	3,912 50
50 market men, or 25 each way, with marketing, at 25 cents each, per annum,	3,912 50
Transportation of merchandise, produce, wood for fuel in winter season, lumber, &c.	4,000 00
Total income per annum for 5 years,	\$19,650 00

A respectable committee, of which Dr. Spencer is chairman, has been appointed to prosecute the Road from Mount Holly.

The citizens of Burlington, we notice by the Gazette of that place, are zealously contending that a Road from their county town to the Delaware at that place would answer a better purpose than the route to Camden, the two places being only 7 miles distant. The importance of increased facilities of getting to market is shown by a variety of considerations. Among other things, it is stated that 100,000 bushels of grain were sent down the Delaware and Raritan Canal from that county during the last season.

In Salem, too, measures have been devised to give increased energy and facilities to business by the removal of the obstructions in Alloway's Creek.—[Newark Daily Advertiser.]

In the Legislative proceedings we find a number of Railroad bills in successful progress—some have passed the House unanimously.

PENNSYLVANIA.

Several Railroads and Canals have cause to rejoice in the passage of the "United States Bank" bill. Among others, the Williamsport and Elmira Railroad. This Road connects the Pennsylvania Canal at Williamsport with the Chemung Canal at Elmira, by a very direct route.

MARYLAND.

Several memorials have been presented to the Baltimore City Council, requesting them to subscribe to the Baltimore and Ohio Railroad to assist an extension of the Road to the Ohio.

From the Baltimore Gazette.

Annapolis, Feb. 14, 1836.

In the Senate, yesterday, Mr. Pigman

reported a bill supplementary to the act for the preservation and repair of that part of the Cumberland Road which lies within the limits of this State.

In the House, Mr. McLean presented the memorial of the President and Directors of the Baltimore and Port Deposit Railroad Company, showing the manner in which they have commenced and prosecuted their work, denying the charges made against them, and freely assenting to the most rigorous scrutiny of their proceedings; also the memorial of Thomas Ford, Wm. H. Stump and others, protesting against any interference with the construction of said Road.

On motion of Mr. Jones, it was ordered that the Committee on Grievances and Courts of Justice, be instructed to inquire into the expediency of adopting such measures as shall compel the Chesapeake and Delaware Canal Company, to adjust the claim of a certain John Randall, of Delaware, against said Company, or to cause said Company to permit all vessels sailing from ports of entry in Maryland, and to pass through the Canal within the limits of Maryland free of toll, until said claim shall have been finally settled.

Mr. Pratt, from the Committee on Internal Improvement, reported to the House that in obedience to the order of the House, they had requested of the Baltimore and Susquehanna Railroad Company, a report of their proceedings under the act authorizing them to construct a lateral Road to Westminster, and had received an answer from the President of said Company, containing the desired information, which he laid before the house.

RAILROAD IN MAINE.

Surveys have been made under the authority of the State of routes for Railroads from Portland westward to Gorham, and from thence through Alfred to the State line near Dover, N. H., one of the most flourishing manufacturing towns in the Union. From Dover, the Railroad is expected to extend to Boston. The Board of Internal Improvements, of which James Hall, of Portland, is Engineer, have also acted on petitions for surveys of a Canal to connect Moosepond with Sebasticook River; of a canal from Readfield to Gardiner; of a Railroad from Brunswick to Casco Bay; and of a Canal from Androscoggin River to Sebago Pond.

RAILROADS IN MICHIGAN.

Companies have been chartered for the construction of Railroads from Detroit to the mouth of St. Joseph's; from Toledo to the mouth of the Kalamazoo; from Monroe to some point on the Detroit and St. Joseph's Railroad—Marshall, we believe; from Detroit to Pontiac, which will probably be continued to Saginaw, or the Grand river; from Mount Clemens to Saginaw. Perhaps the whole length of these cannot be less than 700 miles. The money paid on account of ardent spirits by a population of 200,000, would be sufficient, in six years, to complete all these works.—[Detroit Jour.]

INDIANA.

The great Internal Improvement Bill passed the Senate of Indiana on the 17th

ult., and has become a law. It provides a loan of *ten millions of dollars* on the credit of the State, to be expended under the directions of a board of Internal Improvement, on the following objects:—

\$1,400,000 on the White Water Canal; 3,500,000 on the Central Canal, to terminate at Evansville;

1,300,000 on the extension of the Wabash and Erie Canal, to Terra Haute —thence, to connect at the point on the Central Canal which will be most conducive to the public good, at or between the mouth of Eel river and Black Creek, Knox county;

1,600,000 on the New Albany and Lafayette Railroad;

1,300,000 on the New Albany and Crawfordsville McAdamised or Railroad, and

1,500,000 on the Louisville and Vincennes McAdamised Road.

"The bill also provides a loan to the Laurenceburg and Indianapolis Railroad of 500,000.

CANADA.

We notice in the Quebec Mercury that a discussion on the subject of the improvement of the navigation of the St. Lawrence—also, a motion to appropriate \$500 to explore Lakes St. Francis and St. Louis, in order to ascertain the depth of water in the channels of these Lakes.

The party that had been despatched by the St. Andrew's (N. B.) Railway Association, for the purpose of exploring the best route for the Quebec and St. Andrews Railroad, returned to the latter place on the 15th ult., and gave a very gratifying account of the result of their labors. Their plans and reports had not been submitted to the public.

ILLINOIS AND MICHIGAN CANAL.

The following particulars may prove interesting:—

William Gooding, Esq. has been appointed by the Canal Commissioners Chief Engineer, and Edward B. Talcott, Esq. Assistant Engineer, of the Illinois and Michigan Canal. Mr. Gooding is now engaged on the Wabash and Erie Canal, Indiana, and sustains a high reputation for experience and ability in engineering; and the practical knowledge of Mr. Talcott gained on the New-York works insure confidence in his ability.

We learn that Mr. Smith, of Wabash, (member of the Legislature,) has also been appointed Assistant Engineer, and Mr. Manning Secretary to the Board. The Commissioners will meet at Chicago on the 5th of March next. The Engineer department is to be organized on the arrival of Mr. Hubbard, and the Board hope to be able to let contracts by the first of June.

FOREIGN.

The navigation of the Danube by steam-boats may be considered as decided upon. The subscription for the undertaking already amount to 1,200,000 fr., and a general meeting is to be held in March, when all the preliminary works and plans will

be prepared to be laid before the shareholders.

The Belgian Journals mention a new system of iron Railroad invented by a watchmaker at Brussels, which he calls *proving iron Railroad*, because it moves with the carriage by which it is carried. Vehicles of every kind to which this system is applied, will travel as they now do on the ordinary roads and streets, and may be set in motion by every sort of power. It will be recollect that something of the same kind was some time ago mentioned in the English papers as having been invented in Great Britain.

A German paper arrived to-day, asserts that the Prussian Government has refused its assent to the Cologne Rhenish Society, which was formed to construct a Railroad from Cologne to the Belgian frontier. The journal, however, expresses a hope that the Prussian Government itself will undertake the task of constructing this Railroad.—[London Courier, Jan. 2.]

RAILROADS IN GERMANY.

The Director of the Iron Railroad Society has had the honor of being admitted to an audience of his Majesty the Emperor. As soon as the season will admit, the workmen will begin the Railroad to Galicia, and will proceed with all possible activity, so that it is hoped the communication with Galicia will be open in the year 1837. This enterprise is greatly encouraged here, and the shares meet with a ready sale.—[German Paper.]

We think the following Report of so much importance, that we give it entire:—

PHILADELPHIA AND COLUMBIA RAILROAD.
Report of the Committee appointed to examine into the present state of the Motive Power on the Philadelphia and Columbia Railroad.

The Committee appointed by the House of Representatives on the 6th instant, to examine into the present state of the motive power on the Philadelphia and Columbia Railroad, and for other purposes, expressed in the resolution authorising their appointment, make the following report:

That in the afternoon of the day on which they were appointed, they proceeded to Columbia at which place they entered upon the investigation of the subject committed to their charge. They thence advanced along the line of the Railroad, stopping at such places as they deemed most likely to afford information relative to the object of their mission, and examining those persons whom they judged best qualified to impart to them a full and fair understanding of the subject of inquiry. On the evening of the 11th, they reached the city, where they availed themselves of the opportunity to examine many individuals connected with transportation companies, or engaged in forwarding merchandise on the road, from whom they obtained much important information.

The number of locomotive engines belonging to the Commonwealth on the Philadelphia and Columbia Railroad is SEVENTEEN.

[Here follows a detailed account of the various engines on the road, but it is unnecessary to give it a place.]

The committee find that much dissatisfaction exists in regard to the inefficiency of the motive power, under its present management; and that it is, and has been for some months, decidedly and palpably insufficient for the required transportation.—They have it in evidence, and that too from one of the officers employed by the State on the road, that in the month of December, of the seventeen locomotive engines, owned by the Commonwealth, the average number actually running daily, was but three or four! Some little improvement seems to have taken place since the commencement of the present month; but without a radical change of the whole system of management, the services of the motive power must remain insufficient, and extremely uncertain. It has been satisfactorily proved to the committee, that loaded cars have frequently stood waiting for conveyance by the motive power, for several weeks; often to the great detriment and loss of the owners of merchandise and produce; and that waggons and other modes of conveyance have to be employed to forward it. It is believed that the loss to the State in tolls, which would have accrued on produce forwarded by other means than the Railroad, in consequence of this deficiency of motive power, is very great. The proprietors of one of the transportation lines, whose tolls alone amount to \$3,000 per month, have stated to the committee that they have been compelled to take merchandise from their warehouse on the Railroad, and to forward it by the Union Canal. A large amount, also, of the merchandise and produce transported between Philadelphia and Ohio, for which our Railroad would be preferred, if furnished with capable motive power, is sent by the way of Baltimore and Wheeling.

After careful inquiry into the cause of the inefficiency of the locomotives during the latter part of the past season, the committee are convinced that much of it has arisen from the want of a proper workshop and tools for repairing the disabled engines. This, they hope, will now be remedied by the new State establishment, judiciously located at Parkesburg, in Chester county, about midway on the road, where a large and convenient building has been erected, in which the workmen have recently commenced operations. A steam engine is now being put up, attached to this shop, which will afford material aid in certain parts of the work; and the whole is now under the direction of a careful and experienced mechanist. The repairs done at the Schuylkill and Columbia depots, are not superintended by persons scientifically or practically acquainted with the business.

The principal cause of inability in the engines, as will be perceived by the specific report of them already given, is the want of tire for the driving wheels. This, from the peculiar structure and location of our road, is subject to severe wear, and requires frequent renewal. It is an article, which as yet, has not been manufactured

to any extent in this country; and the impossibility of obtaining it in sufficient quantity, and in proper time from England, has kept a considerable number of our engines idle for some time, and has materially retarded the successful operation of others. The committee, however, have the satisfaction of being able to state, that this defect in our domestic manufactures is now about to be supplied, and that a considerable quantity of tire is very soon expected to be furnished, made in our own country, and of our own iron, which, it is believed, will be found much more durable than that heretofore imported.

There is also little doubt that the locomotives are very frequently injured by the carelessness or incompetency of the engineers managing them. The want of a proper system of direction, and the necessity of a reform as regards the regulation of this branch of the subject confided to their examinations, the committee feel bound to say, is very apparent. From the time the engine leaves the depot, and while running the entire route, the engineer is under no control whatever, and is under no responsibility as to his conduct or the management of the engine. His speed is regulated by his own will; the times of his stopping and starting appear to be according to his own convenience or caprice; he takes on his train such way-cars as he chooses, and rejects those which he does not wish to take; and the farmer, or the miller, whose produce has been lying in the car for days, or even for weeks, waiting for a chance of conveyance to market, has no mode of redress. His complaints are unheeded, the locomotives pass by, and his cars must stand on the sideline until some engineer is sufficiently obliging to attach them to his train.

It is believed that great necessity exists for a proper regulation of the speed of the locomotives, and that if such a system could be brought into effective operation as would in some measure equalize their velocity, and prevent inordinate running down grades and around curves, a material saving in the wear of both engines and road would be the consequence. The committee, in the course of their investigation of this branch of the subject, examined many persons possessed of science, intelligence, and experience, and found them universally to agree in opinion, that the speed of engines drawing passenger cars, should be so regulated as not to exceed 15 miles per hour, and that those with burden cars should be limited to ten. This might be effected by having competent and careful agents at Columbia, Parkesburg, and the Schuylkill depot, whose duty should be to inspect and examine the condition of the engines as they arrive, and on every departure, to give a clearance to the engineer, noting the time of their arrival at, and departure from, each of these places. Or a careful and responsible individual might be sent with every train as State agent, whose duty it should be to control and regulate the speed, and with whom should rest the general direction of every part of the business, except the mere ma-

nagement of the engine itself. A saving to the State would result from this plan, particularly if it be true, as is asserted, that incorrect returns are made of the passengers conveyed on the road. It seems that no register of way-passengers is kept, and that by the mode of making out the returns, the Commonwealth does not receive the amount of toll upon them to which she is entitled. This matter could be easily and fairly regulated by a travelling agent of the State with each train.

The committee are also of opinion, that the locomotive engines would be kept in much better repair, and less frequently injured, if the present mode of paying the engineers by the day, should be changed for that of paying them by the trip, or by the number of miles run in a week. At present it is a matter of indifference with the engineer, whether his locomotive is in order, or disabled—he receives his daily pay. Indeed it might occur that a locomotive would be designedly broken, by one whose inclination should lead him to prefer the period of rest and leisure consequent upon an accident, to the more arduous task of performing his duty on the road. It is believed that much better care would be taken of the engines generally, if the engineers were paid only for the actual service performed by them.

From estimates furnished to the committee by transportation companies, of the probable amount of the business to be done on the road during the approaching season, they are led to believe that a very great increase will result over that of last year. One company alone, which last season ran forty-five cars, and then suffered great inconvenience and loss from the want of sufficient motive power, have made arrangements for running one hundred at the opening of the spring business. Other companies are also extending their facilities, new associations for pursuing the same business are about to engage in it, and arrangements have been made for transporting goods from New-York to the west, through our State improvements.

Without an increase of the motive power, all these designs will be frustrated.—The laudable enterprise of our citizens will be rendered useless to themselves and to the community, and an immense amount of tolls lost to the Commonwealth. We shall have constructed a Railroad eighty-two miles in length, and at an enormous expense; and having completed it, suffer it to lie comparatively idle and unproductive, for want of knowing how to use it to the best advantage; while the Canals and Railroads of other States, are used to convey the trade for which ours would naturally and advantageously be preferred.

With regard to the number of locomotive engines which will be required to accommodate the anticipated amount of trade for the coming season, the committee estimate, from data in their possession, that not less than eight engines, leaving each end of the road daily with the burden cars, and one with passengers, will be sufficient. This will require eighteen locomotives to be kept constantly in effective service, and

admitting one-third of the whole number to be under repair, the requisite total will be twenty-seven. The Commonwealth now owns seventeen, upon four of which (of the English manufacture) little reliance can be placed. One is expected daily from Mr. Baldwin, and also one from England. Should these prove effective, the number fit for duty (rejecting the four above mentioned) will be fifteen; thus requiring twelve additional ones to be immediately procured. The committee however believe, that if the whole number were such as are manufactured by Mr. Baldwin, that considerably more than two-thirds of them could be kept constantly in service by proper management, and the requisite facilities for repairing.

On the question of the expediency of the Commonwealth still continuing to own the motive power, the committee have found considerable difference of opinion. It is thought by some that it would be best for the State to sell to individuals or companies, all the engines now on the road, and that under a proper system of regulations, the motive power would be much better managed by them than by the State agents. They contend that greater facilities would be furnished to the transporting trade, and that all classes who may find it convenient to use the road, for whatever purpose, would be much better accommodated.—Others again believe that if the proper regulation of the motive power, when only one interest is concerned, is found to be so difficult, it would be impossible, by any system of management, to regulate and control so many separate interests, engaged in locomotive engines of different power and speed, stopping frequently at different places, and managed perhaps by persons unfriendly to each other, willing to hinder and obstruct the progress of their rivals, and that the inevitable consequence would be continual encounter, dispute and litigation. Nor is this all. They assert further, that the lives of passengers would be endangered by the collision of rival companies, and the violence too often consequent upon the conflict of opposing interests.—They say, if this is alarming and dangerous when confined to stage travelling, what would it be when a machine of such tremendous speed and power as a locomotive engine, might be made the instrument of malicious opposition or revenge? They therefore contend, that the State should continue to hold the motive power; and believe that under the direction of capable and efficient officers and agents it might be so regulated as to be found satisfactory to the transporters; and that if managed with proper economy, it will not only maintain itself, but may also aid in diminishing the burden of the public debt.

In relation to the occasional use of horse power on the road, the committee discovered upon investigation that different opinions were also entertained. The many disappointments and vexatious delays which the way-transporters suffered during the past season, have induced them strongly to advocate the use of horse power. They have been compelled to resort to the use of it, in

order to prevent their produce from standing for weeks in loaded cars, which the engines were daily passing, and the engineers unable or unwilling to transport. It is however believed that they would be generally satisfied if they could be served at all times with the steam power; but if this should be found impracticable during the next season, it is very desirable that some plan should be adopted by which the occasional use of horse power could be so regulated as to be both safe and useful.

Having thus expressed their views generally upon the subject entrusted to them, the committee conclude by expressing a hope that the wisdom of the Legislature will lead them to adopt measures which will so regulate the motive power, that it will be found to benefit all who are disposed to use the Railroad for convenience or advantage, and to conduce to the utility and reputation of our system of public improvements. Therefore,

Resolved, That the committee be discharged from the further consideration of the subject.

In a recent number of the Philadelphia *Pennsylvanian* we observe the following letter to the editor of that paper, upon which he makes the remarks thereto subjoined:

"Feb. 4, 1836.

"Dear Sir,—Since last Saturday, Jan. 30th, the Camden and Amboy Railroad Company have not been able to drive a single car ten miles!"

"On Monday they attempted to perform their usual trip to New-York, and after working eight hours, and making eight miles, they gave it up—in the mean time, the passengers would have frozen to death, if it had not been for the farmers on the road, who took them in. Since then not a car has gone by—four if not five days have been lying on their oars. This would have been fine work if they had had the mail.—Five days without a mail to or from New-York!"

The failures here complained of ought not to impair the public confidence in Railroads, inasmuch as it is evident that they are referable to a deficiency in the management and not to any defect in the system. The Baltimore and Ohio Railroad, including the Branch to Washington, has been in operation from its first opening, in all kinds of weather, notwithstanding the unfavorable nature of the route, passing as it does through many deep-cuts, narrow defiles, and along almost perpendicular cliffs of great elevation, where snow-drifts and ice accumulate in much greater masses than in any open country. We have seen it stated that more than one thousand men are now employed on the Camden and Amboy Railroad in removing the snow. Now the Baltimore and Ohio Railroad has been kept open by machinery invented expressly for the purpose, by which not only snow but solid ice is effectually removed, so that the engines and trains of passengers can advance at the rate of eight or ten miles an hour under the most unfavorable circumstances.

As pioneers in the construction of Railroads in the United States, the Baltimore and Ohio Railroad Company deserve the thanks of the whole community for this great achievement, as it goes to establish the important fact, that Railroads can be kept open and in full operation in all kinds of weather, by the timely application of proper machinery.

The machinery above referred to consists of a snow plow which effectually removes the snow, and a *drag* which rips the ice from the rails, even when two or three inches thick, so that the engine and passenger trains can always pass; and as full evidence of the efficacy of the plan here in operation, we need only repeat that the trains of passenger cars to and from Washington and Baltimore have never since the opening of that road, lost a *single trip*, though more unfavorable weather, so far as ice, snow and sleet are concerned, perhaps never occurred in this climate than has been experienced since that road has been in operation.—[Gazette.]

From the London Mechanics' Magazine.

ON RAILWAY PLATFORMS. BY JOSEPH JOPPING, ESQ., ARCHITECT.

Sir,—Supposing the weight of the stone blocks, at the distance they are apart near Chalk Farm, to be sufficient for steadyng the rails for such loads, and at such velocities as it is intended should pass along that railway, I have been considering whether it is possible to distribute the same weight in any other way more advantageously, and what description of material is best calculated for that purpose.

I have formed several plans, but venture first to submit to the consideration of engineers a slate platform, with rails screwed directly thereto, that is, without chairs.

I take it for granted that the less the distance is between the top of a rail and the foundation or bed on which the stone is laid to which it is to be affixed, the better, so that the rail be of sufficient strength and the stone be of sufficient thickness to hold firmly the fastenings for the rail.

Also, that the nearer the points for supporting a rail are to each other, the less the vibration will be.

Again, that if any rail be supported throughout its length, the vertical vibration of it will be the least possible.

And further, that the nearer the points for fixing a rail to its stone support are to each other, the less strain there will be upon each.

The difference between the method adopted for the London and Birmingham Railway and the one now submitted to your readers, will appear obvious by the accompanying figures and the following description:

Fig. 1 is an isometrical representation of the stone blocks as they are placed for the chairs to support the rails, near Chalk Farm. The distance between the centres of the blocks under each rail is 5 feet; and the distance from the centre of one

block to the centre of the next under the same rail is 3 feet. The top and bed of each block is 2 feet square, and the depth 12 inches. Therefore, each block contains 4 cubical feet, and each has a bed of 4 superficial feet; and, consequently, there are 8 cubical feet of stone, having in every yard in the direction of the length of each railway 8 superficial feet of bed. A chair is fixed over the centre of each block, and the distance from the top of the rail to the bottom or bed of the block is 18 inches. This will appear more evident by the transverse section, fig. 4, showing two of the blocks, and the position of the tops of the rails. The dotted lines *a b c*, from the top of each rail to the angle of each block on its bed, shows the greatest angle of resistance they have to lateral vibration. If the blocks were not placed diagonally, the angle of resistance would be much less, but probably more correct. It is, indeed, considered to be doubtful whether any advantage is obtained by the diagonal position of the blocks.

Fig. 2 represents a platform of slate, nearly 5 inches thick, and 6 feet 6 inches wide, containing the same cubical quantity per yard as the stone blocks at Chalk Farm. Fig. 3 is a transverse section of the same, showing the top of each rail.—The dotted lines *a b c* show the angle which the top of each rail makes with the lateral extremities of the bed of the slate platform. The angles *a b c*, in fig. 3, are much greater than the angles *a b c*, fig. 4; besides, the latter is considerably too much. Therefore, the platform, it is considered, would hold the rails much steadier than the blocks at Chalk Farm; the weight per yard of each being the same, and both being bedded in the same way.

Fig. 5 is the section of a rail proposed to be affixed directly to the slate platform, by means of bolts and copper or brass nuts introduced into the slate. If there are eight of these bolts in each yard, the points of fastening to the platform would be four times as many as those to the stone blocks, and the strain upon each, therefore, if the rail was not bedded, would only be $\frac{1}{4}$ th; but as the rail is proposed to be bedded throughout on felt and a leather collar under the head of each bolt, any jar or vibration the rail might have, it is considered, would scarcely be perceptible. The inner side of the rail, and the face of the slate under it, to be made quite fair. At each end of each piece of rail is to be a mortice, the vertical section of which is shown by the lines *a b c d* on this figure.

Fig. 6 shows the plan of this rail where two lengths meet, with the mortice in each, and the wedge which keeps them fair, which, as well as the elliptical holes for the bolts, allows for expansion and contraction. Two bolt heads are also shown.

This possibly may be sufficient for the present to draw attention to this subject; and I think I shall be able to show that slate material is applicable for this pur-

JOFLING'S IMPROVED RAILWAY PLATFORMS.

Fig. 1.

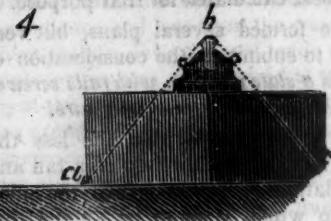
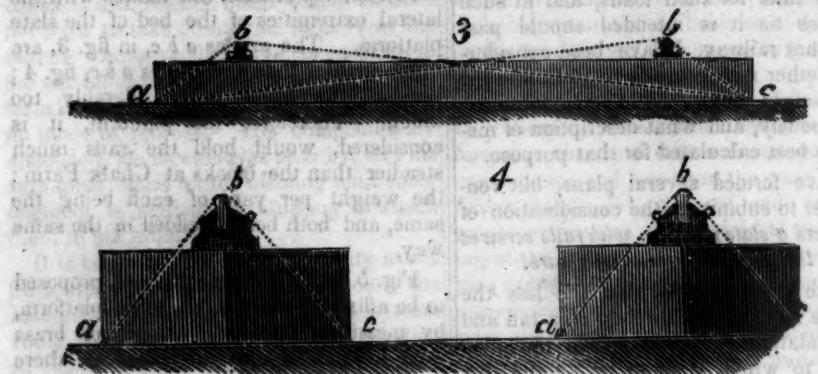
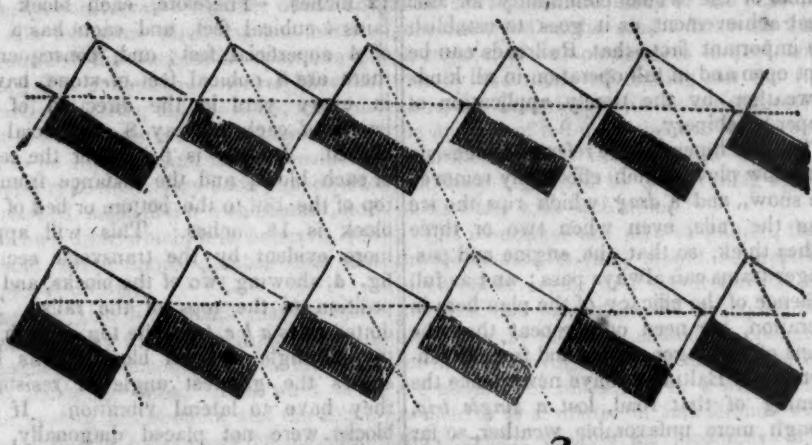


Fig. 5.



Fig. 6.



pose, and may be advantageously used for Railways where there is great traffic, and where great speed is required.

I am Sir,
Your obedient servant,
JOSEPH JOFLING.
34 Somerset-street, Oct. 15, 1835.

From the London Mechanics' Magazine.
Mr. Hyne's Patent Improvements in Carriage-Wheels, Axle-trees, and Boxes.

The improvements comprehended under this patent, divide themselves into two distinct branches. The first consists of a method of constructing the wheels and axle-trees of carriages, or rather in certain convenient appendages thereto, by which the wheels can be instantly locked or unlocked without alighting for the purpose, as in the case of the ordinary drag-chain and slipper, and so concealed, that externally they are hardly perceptible; the second in so constructing the boxes and securing the ends of the axle-trees permanently therein, that there shall be an abundant, never-failing, and *equally diffused* supply of oil to the rubbing surface, without its being necessary, as usual, to take off the wheels every now and then, to renew the supply of oil, or to remedy the effects of that unequal oiling, which is the besetting sin of all former contrivances of this sort.

The object aimed at by the patentee will be at once recognised as of first-rate importance; nor do we run much risk, we apprehend, in giving it as our opinion, that he has gone further towards their complete accomplishment than any inventor who has preceded him. It is not often that so happy a combination of science, sound judgment, and ingenuity, come before us, as is displayed in the various contrivances which we shall now proceed to describe in detail.

The following engravings represent, 1, a back elevation of a pair of wheels, axle, and boxes, constructed according to Mr. Hyne's patent, with one of the wheels and boxes shown in section; 2, a side-view of a box, with its external cover on; 3, a similar view of a box, with the external cover off; and, 4, part side-view of a wheel in its complete state.

1. Of the Locking and Unlocking.

The axle *a* (fig. 1,) differs essentially from all other axles, in having shoulders or enlargements, of the peculiar form represented in the engraving at those parts where it comes into proximity with the inner ends of the naves—the axle and its shoulders being forged or welded together all in one piece. Two holes are drilled in each shoulder, through its entire length, for the reception of the locking-bolts *c*; and in the back of each nave there are four holes or recipients made at the four cardinal points of a circle, corresponding with that described on the rotation of the axle, by the holes in the shoulders thereof; so that when the wheels are screwed on and adjusted as close as possible to the shoulders, the bolts, on being let loose, must shoot with unerring precision into the first two holes in the nave which they come opposite to. The command of these bolts

may be effected, either by a jointed lever, as shown at *g g* in our engravings; one end of the lever being placed within reach of the person riding in the carriage, or of the attendants; or by chains carried to any part of the vehicle which may be thought most expedient, and there secured by hooks, or other holdfasts. The size of the bolts must, of course, depend on the size and weight of the carriage; and also, in some degree, on the uses to which it is to be applied; as, for instance, whether it is to be worked at high or low velocities, whether on a level or hilly country, &c. The inventor thinks that bolts of from half an inch to one and a half inch in diameter, would be found abundantly strong for the lightest private carriage up to the heaviest stage-coach; and though he considers two bolts inserted into the nave, in the manner described, to be quite sufficient to counteract the leverage force of the peripheries of the wheel, he has been careful to point out that the principle of his invention admits of four bolts being made use of, equally well with two.

As in every case of locking the wheels, a great increase of pressure must necessarily take place at one of the four points on the tires which correspond with the position of the bolts and recipients, Mr. Hynes, to protect the tires at these particular points, defends them with plates of soft steel, or case-hardened iron, about eight inches in length, indented or dovetailed into the tires, screwed thereto, and projecting but little beyond the general surface.

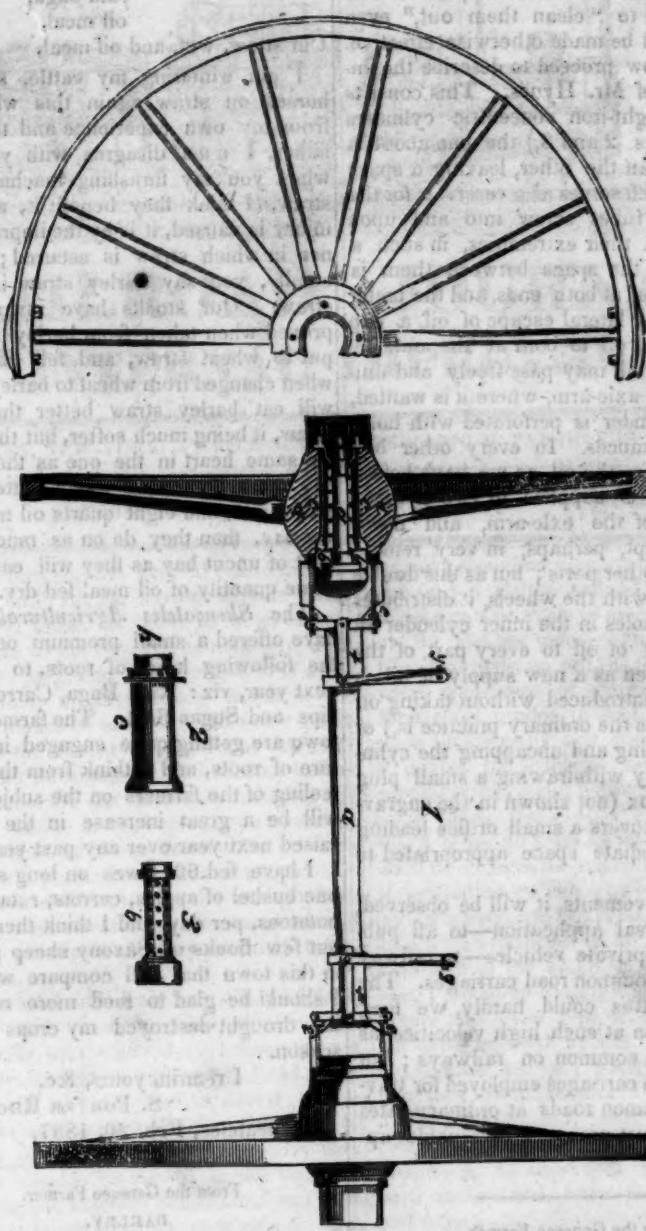
The contrivances which Mr. Hynes makes use of to adjust the wheels to the arms of the axletree, are those commonly known by the name of Collinges; namely, collets, nuts (with right and left-handed screws,) linch pins, outer caps, &c. We gather from his specification, that he thinks this the most perfect mode of adjustment which has been yet invented; and perhaps he is right, though on this point it is certain all the carriage-making world are not agreed.

2. Of the Axletree and Boxes.

Every reflecting person at all acquainted with carriage economy, is aware that upon friction depends draft, and that, accordingly, in proportion as friction is reduced, so draft is diminished, and vice versa. The great desideratum, therefore, is a constant and abundant supply of oil to the arms, and every part of them—oil being the best of all known lubricating substances. The question here consequently presents itself—Have the grooves, or things called "reservoirs," which are now found in all the most improved boxes, ever yielded such a supply? It would not, we imagine, be difficult to demonstrate, that the very best boxes hitherto made never did or could accomplish any thing of the kind. There is an eternal law of nature, that of gravitation, which forbids it. In all of them—take Collinge's for example—there is a small space or groove called a reservoir. This groove is cast in the metal, is situated near its back end, and may contain, when fully served with oil, which can only be to about a fourth of its circumference, a table spoonful of oil. Well at the other

HYNE'S PATENT CARRIAGE WHEELS, AXLES AND BOXES.

Fig. 4.



extreme end of the arm, that is to say, in what is called the "cap," in front of the wheel, there is a similar reservoir, and the arm which it is intended to feed with oil, there are two nuts and a coned collet, all closely fitted and screwed on the axle. Now, be it remembered, that the arm and boxes are presumed to be "air-tight," and that the position of the arm is nearly horizontal; and, moreover, that these reservoirs are placed absolutely under the lowest point or level of the thing which they are meant to lubricate! We are told, indeed, that the reservoirs turning with the wheel, "wash the oil up;" and further, that this constant action of the wheels has the effect of producing a "vermicular motion" about the arm, which, in its turn, again causes a "pumping" of the oil all along the air-tight arm, from one extreme reservoir to the other. But does not this amount to a mere reciprocation of impossibilities? The theory might, perhaps, have some little feasibility about it, were the boxes and reservoirs fixtures, and the arm a revolving cylinder within them; but as the case happens to be reversed, the arm being a fixture, and the boxes revolving bodies, no such vermicular motion can occur under any circumstances of time or place. As the box revolves, so must the oil within it. Beyond the boundaries of its narrow sphere gravitation will not permit it to stir; water could as easily return to its source, as oil mount up in the manner supposed, especially when we know that the motion of the wheel near its axis is comparatively a slow one, even when the periphery is in a state of the utmost velocity.

We have, for the sake of impartial comparison, here adverted to the very best

boxes extant only, and not touched at all on those which are cast with serpentine grooves, which are, in fact, unworthy of comment. The carry in them the elements of their own destruction, for no tools can be made to "clean them out," even if they could be made otherwise effective.

Let us now proceed to describe the improved box of Mr. Hynes. This consists of two wrought-iron concentric cylinders or tubes (figs. 2 and 3,) the one about a third less than the other, leaving a space between which serves as a reservoir for the oil. These tubes screw into and upon each other at their extremities, in such a manner that the space between them is perfectly closed at both ends, and the better to prevent any lateral escape of oil, a cap (A) is screwed on to both at the outside. But that the oil may pass freely and uniformly to the axle-arm, where it is wanted, the inner cylinder is perforated with holes at equal distances. In every other box hitherto in use, the oil, as we have before pointed out, is supplied to two or three parts only of the axle-arm, and never reaches, except, perhaps, in very remote portions, the other parts; but as this double box revolves with the wheels, it distributes through the holes in the inner cylinder an equal supply of oil to every part of the axle. As often as a new supply of oil is wanted, it is introduced without taking off the wheels (as the ordinary practice is,) or even unscrewing and uncapping the cylinders, by simply withdrawing a small plug in the outer box (not shown in the engravings,) which covers a small orifice leading to the intermediate space appropriated to the oil.

Both improvements, it will be observed, are of universal application—to all public as well as private vehicles—to railway as well as to common road carriages. The safety-apparatus could hardly, we fear, be depended on at such high velocities, as are becoming common on railways; but to gentlemen's carriages employed for travelling on common roads at ordinary rates of speed, it must prove an invaluable appendage.

From the Genesee Farmer.

INTERESTING EXPERIMENTS IN FEEDING— VALUE OF STRAW, ETC.

Mrs. TUCKER—Previous to the 1st of January, I fed two heifers (which had their first calves in the spring of 1836, one in calf and the other farrow) with long straw and oil meal; and on the first of January I commenced weighing their milk, and continued weighing for six days, on each of the following feed:

1. Six days on long straw and six quarts oil meal per day, each.
2. Six days on 24 quarts cut carrots and long straw, each.
3. Six days on 24 quarts cut ruta baga and long straw to each.
4. Six days on long straw and six quarts oil meal, each.
5. Six days on cut straw, wet, and six quarts oil meal, mixed, to each cow; and the results were as follows :

When fed on	lbs. oz.
Long straw and oil meal, an average per day of	31 13
carrots,	28 14
ruta baga,	26 4
oil meal,	30 8
Cut straw, wet, and oil meal,	35 2

I am wintering my cattle, sheep and horses on straw again this winter, and from my own experience and that of my father, I must disagree with you; first, when you say thrashing machines injure straw, (I think they benefit it, any if any injury is caused, it is by the improper manner in which straw is secured;) and secondly, you say barley straw is our best straw. Our stocks have invariably improved when taken from barley straw and put to wheat straw, and fell off in flesh when changed from wheat to barley. They will eat barley straw better than wheat straw, it being much softer, but there is not the same heart in the one as the other.—My team horses do much better on cut straw, wet, and eight quarts oil meal each, per day, than they do on as much of the best of uncut hay as they will eat, and the same quantity of oil meal fed dry.

The Skeneateles Agricultural Society, have offered a small premium on each of the following kinds of roots, to be raised next year, viz: Ruta Baga, Carrots, Parsnips and Sugar Beet. The farmers in the town are getting quite engaged in the culture of roots, and I think from the present feeling of the farmers on the subject, there will be a great increase in the quantity raised next year over any past year.

I have fed 60 Ewes on long straw and one bushel of apples, carrots, ruta baga, or potatoes, per day, and I think there can be but few flocks of Saxony sheep produced in this town that will compare with them. I should be glad to feed more roots, but the drought destroyed my crops the last season.

I remain, yours, &c.

S. PORTER RHOADES.
Skeneateles, Feb. 20, 1837.

From the Genesee Farmer.

BARLEY.

In an interesting paper issued in the form of a circular by the Executive Committee of the A. T. Society, I observed the following statement: "It appears by the collector's returns on the Erie Canal, last year, up to the 3rd of October, there were 285,483 bushels of barley received at Albany; up to the same period this year, 72,663 bushels; showing a falling off of 214,285 bushels. We believe there has been a full crop of barley in the State, so that the inference is, that the farmers are feeding it to their cattle instead of furnishing the brewery, to some extent at least."

The fact respecting the falling off is undoubtedly as stated, though I think other causes than the one stated have contributed to this result. In the first place the crop of barley was not an average one in this State; the extreme wet and cold weather of June hindered its growth, where it did not drown and destroy it. In the

second place, barley is more extensively used for making bread by many who find it rather difficult to procure wheat, than it has been in any former year. Barley of good quality, and well dried and ground will yield 30 lbs. of flour to the bushel, which renders it much cheaper for food than wheat at the present prices. In the third place, as the committee assert, barley is the present year much more generally used for making beef and pork than is usual among western farmers, a result caused by the failure of the corn crop.

But the cause to which the falling off in the transportation of barley to the east is to be attributed more perhaps than to any other, is the fact that it is extensively purchased and used for distillation. It is surprising that while the cry for bread is heard from all parts of our country, men should be found converting what should be the substance of the poor, into their poison.—While the poor houses of our cities and counties are overflowing with families destitute of bread, enough grain is weekly converted into liquor, to supply the whole with all that would be required. One hundred thousand bushels of rye and corn are weekly used in the distilleries of New-York city and its immediate vicinity. The friends of the poor, and the conservators of public morals should think of these things.

A. B.

As the season is fast approaching when clover and other grass seeds will be sown, we deem it advisable to bespeak for their future pastures and meadows, from our agricultural brethren, a liberal bestowal of seed. He who sows *scantily* must expect to reap in a proportionate degree, or to gather more weeds than hay. In every soil there are ample supplies of the seed of every variety of wild and noxious herbage, and if these are not supplanted by a wholesome covering of artificial grasses, they will inevitably germinate, and show their pestilent fronts to the annoyance of proprietors, and the discomfort of their stock: for the earth will be busy in despite of all the maltreatment it receives at human hands.

THE HOLLOW-HORN.—As this is the season of the year when we may expect this disease to make its appearance among the horned tribe, we would remind their owners that by pouring a tea-spoonful of the spirits of turpentine in the cup or cavity in the back of the head of cattle, they may save them from the effects of this always unpleasant, and often fatal disease.

From the Baltimore Farmer and Gardener.

We have conversed with several farmers who are extensive grain growers, and have received letters from many others, and from all we can learn, we draw the conclusion, that serious apprehensions are entertained for the safety of the ensuing crops of wheat and rye. That the severe frosts of the latter November and December did do much injury, we doubt not, but still hope that "He who tempers the wind to the shorn lamb" will reward the labor of the husbandman by a fruitful coming harvest.